

IN THE CLAIMS

Please cancel claims 85 through 89 and 101 through 104 without prejudice or disclaimer of their subject matter.

1 X/ 1. (previously presented) A plug, comprising:

2 a first base bearing a keyway providing a first electrical conductor and an orifice
3 spaced-apart from and separated by a mass of said plug from said keyway;

4 a second base separated by an axial length of said plug from said first base, said
5 second base disposed to support a cam, said mass being perforated by a plurality of radially oriented
6 apertures forming an array;

7 an exterior surface extending between and engaging said first base and said second
8 base;

9 a sidebar positioned between said first base and said second base to reciprocate
10 between a first location with said sidebar simultaneously engaging said plug and a cylinder
11 surrounding said plug, and a second location releasing said plug for relative to movement between
12 the cylinder and said plug;

13 a locking mechanism disposed within said apertures to move relative to said plug in
14 response to a key inserted into said keyway to accommodate reciprocation of said sidebar relative
15 to said plug and rotation of said plug relative to the cylinder when the key while inserted into said
16 keyway engages in a selected relation with said locking mechanism, and obstructing said
17 reciprocation absent said selected relation;

18 a second electrical conductor terminating with an electrical contact exposed to an
19 exterior of said first base through said orifice;

20 an electronic logic circuit borne by said plug while coupled to receive electrical data
21 signals via said first and second electrical conductors, and generating control signals in dependence
22 upon said electrical power and data signals; and

23 an electrical operator disposed within one of said apertures, said operator having a

24 distal member travelling in dependence upon said control signals between a first position relative
25 to said exterior surface obstructing said relative movement by engaging a detent protruding from the
26 cylinder, and a second and different position relative to said exterior surface accommodating said
27 relative movement.

1 2. (previously presented) The plug of claim 1, comprising said locking mechanism, logic
2 circuit and electrical operator simultaneously experiencing said rotation relative to the cylinder
3 whenever said plug rotates relative to the cylinder.

1 3. (previously presented) The plug of claim 1, comprising said locking mechanism, logic
2 circuit and electrical operator being wholly within the cylinder and travelling with said plug
3 whenever said plug moves relative to the cylinder.

1 4. (previously presented) The plug of claim 1, with said electrical operator maintaining said
2 distal member within said plug with said distal member extended not beyond said exterior surface
3 while said distal member is in said first position, and maintaining said distal member in concurrent
4 engagement with said plug and with the detent while said distal member is in said first position.

1 5. (previously presented) The plug of claim 1, with said electrical operator maintaining said
2 distal member within said plug with said distal member extending not beyond said exterior surface
3 while said distal member is in said first position, and moving said distal member radially between
4 relative to said exterior surface in dependence upon said control signals.

1 6. (previously presented) A lock, comprising:
2 a cylinder containing a hollow recess defining a longitudinal axis and a stationary
3 detent extending from said cylinder;
4 a plug bearing a plurality of open radially oriented apertures forming an array, said

5 plug being rotatable around said longitudinal axis while resident within said hollow recess, said plug
6 comprising:

7 a first base bearing a keyway providing a first electrical conductor and an
8 orifice spaced-apart from and separated by a mass of said plug from said keyway;

9 a second base separated by an axial length of said plug from said first base,
10 said second base disposed to support a cam;

11 an exterior surface extending between and engaging said first base and said
12 second base;

13 a sidebar positioned between said first base and said second base to create an
14 obstruction to relative movement between said cylinder and said plug;

15 a locking means disposed within said apertures to release an obstruction when the key
16 while inserted into said keyway engages in a selected relation with said locking means, and to
17 maintain said obstruction absent said selected relation;

18 a second electrical conductor terminating with an electrical contact exposed to an
19 exterior of said first base through said orifice;

20 an electronic logic circuit borne by said plug, coupled to receive electrical data signals
21 via said first and second electrical conductors, and generating control signals in dependence upon
22 said electrical power and data signals; and

23 an electrical operator borne by said plug, disposed within one of said apertures, said
24 operator having a distal member radially traveling along an axis transverse to said longitudinal axis,
25 in dependence upon said control signals between a first position relative to said exterior surface by
26 engaging said detent and thereby obstructing said movement in concert with said locking device and
27 a second and different position relative to said exterior surface accommodating said movement.

1 7. (previously presented) The plug of claim 6, comprising said locking device, logic circuit
2 and electrical operator simultaneously experiencing said rotation relative to the cylinder whenever
3 said plug rotates relative to the cylinder.

1 8. (previously presented) The plug of claim 6, comprising said locking device, logic circuit
2 and electrical operator being wholly within the cylinder and travelling with said plug whenever said
3 plug moves relative to the cylinder.

1 9. (previously presented) The plug of claim 6, with said electrical operator maintaining said
2 distal member within said plug with said distal member extended not beyond said exterior surface
3 while said distal member is in said second position, and maintaining said distal member in
4 engagement with said detent while said distal member is in said first position.

X/ 1 10. (previously presented) The plug of claim 6, with said electrical operator maintaining said
2 distal member within said plug with said distal member extending not beyond said exterior surface
3 while said distal member is in said first position.

1 11. (previously presented) A lock, comprising:
2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface, said shell bearing a detent extending into said shell;

4 a plug rotatable around said longitudinal axis while resident within said hollow
5 recess, and a bar interposed between said shell and said plug generally along a radial plane engaging
6 both said shell and said plug while obstructing rotation of said plug within said recess, said plug
7 comprising:

8 a first base providing a first electrical conductor;
9 a second base separated by an axial length of said plug from said first base;
10 an exterior surface extending between and engaging said first base and said
11 second base;

12 a locking device responsive to a key inserted into said keyway
13 accommodating relative movement between said shell and said plug when the key while

14 inserted into said keyway engages in a selected relation with said locking device and
15 obstructing said relative movement absent said selected relation;

16 a second electrical conductor terminating with an electrical contact exposed
17 to an exterior of said first base through said orifice;

18 an electronic logic circuit coupled to receive electrical data signals via said
19 first and second electrical conductors, and generating control signals in dependence upon
20 said data signals; and

21 an electrical operator having a distal member moving relative to said detent,
22 in dependence upon said control signals between a first orientation relative to said exterior
23 surface enabling said relative movement and a second and different orientation relative to
24 said exterior surface obstructing said relative movement when said distal member at least
25 partially surrounds said detent.

1 12. (previously presented) The plug of claim 1, further comprised of said:

2 electrical operator comprising an electrical coil coaxially aligned with said distal
3 member, to move said distal member between said second position and said first position in response
4 to said control signals; and

5 said distal member bearing a circumferential surface blocking said relative movement
6 while said distal member is in said second position, and a variation in said circumferential surface
7 accommodating said relative movement while said distal member is in said first position.

1 13. (previously presented) The plug of claim 6, further comprised of said:

2 electrical operator comprising an electrical coil coaxially aligned with said distal
3 member, to move said distal member between said second position and said first position in response
4 to said control signals; and

5 distal member bearing a circumferential surface engaging said detent while said distal
6 member is in said second position, and a variation in said circumferential surface accommodating

7 said relative movement while said distal member is in said first position.

1 14. (previously presented) A lock, comprising:

2 a cylinder containing a hollow interior recess defining a longitudinal axis, and bearing
3 a slot within said recess; and

4 a plug rotatable from a rest orientation around said longitudinal axis while resident
5 within said hollow recess relative to said cylinder; and

6 a stationary detent positioned between said first end and second end while extending
7 into said slot, and providing simultaneous engagement of said cylinder and said plug while said
8 cylinder remains in said rest orientation;

9 said plug comprising:

10 a first base bearing an opening accommodating insertion of a key and
11 providing a first electrical conductor;

12 a second base separated by an axial length of said plug from said first base,
13 said second base disposed to support a cam, said mass being perforated by a an aperture;

14 an exterior surface extending between said first base and said second base;
15 retaining means oriented to retain a shank of a key inserted into said opening
16 while said plug remains in an orientation other than said rest orientation relative to said
17 cylinder, and to accommodate reversal of the key from said opening while said plug is in said
18 rest orientation;

19 a second electrical conductor terminating with an electrical contact exposed
20 to an exterior of said first base through said orifice;

21 an electronic logic circuit comprising a memory storing a code, said circuit
22 being borne by said plug and coupled to receive electrical data signals via said first and
23 second electrical conductors, said circuit generating control signals in dependence upon
24 correspondence between said code and information borne by said data signals; and

25 an electrical operator borne by said plug, said operator having a distal member

26 travelling in dependence upon said control signals between a first position relative to said
27 exterior surface maintaining engagement of said detent and a second and different position
28 relative to said exterior surface accommodating movement between said plug and said
29 cylinder.

1 15. (previously presented) The lock of claim 14, further comprising:

2 said detent being borne by said cylinder; and

3 said distal member being oriented within said plug to move relative to said plug to
4 accommodate rotation of said plug from said rest orientation relative to the cylinder when a key
5 while inserted into said opening generates said data signals representing information having a
6 selected said correspondence with said code, and obstructing said rotation absent said selected
7 correspondence.

1 16. (previously presented) The lock of claim 14, further comprising:

2 said detent comprising an arm arcuately engaging said cylinder and a tooth extending
3 from said arm and through said slot; and

4 said distal member being oriented within said plug to move relative to said plug to
5 accommodate passage of said tooth relative to said distal member during rotation of said plug from
6 said rest orientation relative to the cylinder when a key while inserted into said opening generates
7 said data signals representing information having a selected said correspondence with said code, and
8 obstructing said rotation of said plug from said rest orientation by engaging said tooth absent said
9 selected correspondence.

1 17. (previously presented) The lock of claim 14, further comprising:

2 said detent comprising an arm arcuately engaging said cylinder and a tooth extending
3 from said arm and through said slot; and

4 said distal member being oriented within said plug to move relative to said plug to

5 accommodate passage of said tooth relative to said distal member during rotation of said plug from
6 said rest orientation relative to the cylinder when a key while inserted into said opening generates
7 said data signals representing information having a selected said correspondence with said code,
8 obstructing said rotation of said plug from said rest orientation by engaging said tooth absent said
9 selected correspondence, and accommodating passage of said tooth relative to said distal member
10 during rotation of said plug from an orientation other than said rest orientation to said rest
11 orientation.

1 18. (previously presented) The lock of claim 14, further comprising:

2 said detent comprising an arm arcuately engaging said cylinder and a tooth extending
3 from said arm and through said slot; and

4 said distal member being oriented within said plug to move relative to said plug to
5 accommodate passage of said tooth relative to said distal member during rotation of said plug from
6 said rest orientation relative to the cylinder when a key while inserted into said opening generates
7 said data signals representing information having a selected said correspondence with said code, and
8 obstructing said rotation of said plug from said rest orientation by engaging said tooth absent said
9 selected correspondence when said rotation is in a first direction, and accommodating said rotation
10 of said plug from said rest orientation despite an absence of said selected correspondence when said
11 rotation is in a second and opposite direction.

1 19. (previously presented) The lock of claim 14, further comprising:

2 said detent comprising an arm arcuately engaging said cylinder and a tooth extending
3 from said arm and through said slot; and

4 said distal member being oriented within said plug in an engagement of said tooth to
5 obstruct said rotation of said plug from said rest orientation, and to move relative to said plug from
6 said engagement of said tooth obstructing said rotation of said plug from said rest orientation to an
7 accommodation of passage of said tooth relative to said distal member during rotation of said plug

8 from said rest orientation relative to the cylinder when a key while inserted into said opening
9 generates said data signals representing information having a selected said correspondence with said
10 code, and continuing said accommodation despite intermittent removal of the key from said opening.

1 20. (previously presented) The lock of claim 14, further comprising:

2 said detent comprising an arm arcuately engaging said cylinder and a tooth extending
3 from said arm and through said slot; and

4 said distal member being oriented within said plug in an engagement of said tooth to
5 obstruct said rotation of said plug from said rest orientation, and to move relative to said plug from
6 said engagement of said tooth obstructing said rotation of said plug from said rest orientation to an
7 accommodation of passage of said tooth relative to said distal member during rotation of said plug
8 from said rest orientation relative to the cylinder when a key while inserted into said keyway
9 generates said data signals representing information having a selected said correspondence with said
10 code, and continuing said accommodation despite intermittent removal of the key from said opening
11 absent subsequent said generation of data signals representing information having said selected
12 correspondence with said code.

1 21. (previously presented) The lock of claim 16, further comprising:

2 a sidebar positioned between said first base and said second base to provide
3 reciprocation between a first location with said sidebar providing simultaneous engagement with said
4 plug and said cylinder, and a second location releasing said plug for rotation relative to the cylinder;
5 and

6 said electrical operator comprising an electrical solenoid borne by said plug, said
7 distal member comprising an armature travelling in dependence upon said control signals between
8 a third position relative to said exterior surface maintaining said simultaneous engagement and a
9 fourth and different position relative to said exterior surface accommodating said reciprocation.

1 22. (previously presented) The lock of claim 17, further comprising:

2 a sidebar positioned between said first base and said second base to provide
3 reciprocation between a first location with said sidebar providing simultaneous engagement with said
4 plug and said cylinder, and a second location releasing said plug for rotation relative to the cylinder;
5 and

6 said electrical operator comprising an electrical solenoid borne by said plug, said
7 distal member comprising an armature travelling in dependence upon said control signals between
8 a third position relative to said exterior surface maintaining said simultaneous engagement and a
9 fourth and different position relative to said exterior surface accommodating said reciprocation.

1 23. (previously presented) The lock of claim 18, further comprising:

2 a sidebar positioned between said first base and said second base to provide
3 reciprocation between a first location with said sidebar providing simultaneous engagement with said
4 plug and said cylinder, and a second location releasing said plug for rotation relative to the cylinder;
5 and

6 said electrical operator comprising an electrical solenoid borne by said plug, said
7 distal member comprising an armature travelling in dependence upon said control signals between
8 a third position relative to said exterior surface maintaining said simultaneous engagement and a
9 fourth and different position relative to said exterior surface accommodating said reciprocation.

1 24. (previously presented) The lock of claim 19, further comprising:

2 a sidebar positioned between said first base and said second base to provide
3 reciprocation between a first location with said sidebar providing simultaneous engagement with said
4 plug and said cylinder, and a second location releasing said plug for rotation relative to the cylinder;
5 and

6 said electrical operator comprising an electrical solenoid borne by said plug, said
7 member comprising an distal armature travelling in dependence upon said control signals between

8 a third position relative to said exterior surface maintaining said simultaneous engagement and a
9 fourth and different position relative to said exterior surface accommodating said reciprocation.

1 25. (previously amended) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess;

6 a stationary bar borne by said shell and interposed between said shell and said
7 cylinder plug to create an obstruction to rotation of said cylinder plug within said recess;

8 said cylinder plug comprising:

9 a first base and a second base separated by an axial length of said cylinder plug from
10 said first base, said second base configured to support a cam; and

11 an electrical operator borne by said cylinder plug and rotatable with said cylinder
12 plug, said electrical operator being electrically operable to respond to a control signal by
13 moving independently of said bar between one of a first orientation accommodating relative
14 movement between said shell and said cylinder plug and a second and different orientation
15 maintaining obstruction of said relative movement by engaging said bar, and another of said
16 first orientation and said second orientation.

1 26. (previously amended) The lock of claim 25, further comprised of:

2 a logic circuit generating said control signal in response to a comparison between a
3 code set within said logic circuit and a data signal applied to said logic circuit; and

4 said electrical operator moving between said second orientation and said first
5 orientation in response to said control signal.

1 27. (previously amended) The lock of claim 25, further comprised of a key retainer

maintaining a shank of a key within said cylinder plug during rotation of said cylinder plug relative to said shell.

28. (previously amended) The lock of claim 27, further comprised of a locking mechanism borne by said cylinder plug, said cylinder plug being perforated by an aperture admitting reciprocal travel of a key relative to said locking mechanism, and said locking mechanism obstructing movement of said cylinder plug relative to said shell absent the key exhibiting a selected relation with said locking mechanism.

29. (previously amended) The lock of claim 25, further comprised of a plurality of electrical conductors borne by said lock to engage a circuit in a key inserted into said cylinder plug.

30. (previously amended) The lock of claim 25, further comprised of a power source to energize said electric operator, positioned to rotate with said cylinder plug relative to said shell.

31. (previously amended) The lock of claim 30, further comprised of said power source being mounted on a key.

32. (previously amended) The lock of claim 25, further comprised of a network of a plurality of cylinder plugs including said cylinder plug, and a switching device controlling operation of said network.

33. (previously amended) The lock of claim 32, with said switching device comprising a logic circuit.

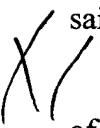
34. (previously presented) The lock of claim 1, further comprised of said:
electrical operator comprising an electrical coil moving said distal member, to

3 reciprocate said distal member between said first position and said second position in response to
4 said control signals; and

5 said distal member bearing a circumferential surface blocking said radial movement
6 of said sidebar while said distal member is in said second position, and accommodating said radial
7 movement while said distal member is in said first position.

1 35. (previously presented) The lock of claim 6, further comprised of said:

2 electrical operator comprising an electrical coil moving said distal member, to
3 reciprocate said distal member between said first position and said second position in response to
4 said control signals; and

5  said distal member bearing a circumferential surface blocking said radial movement
6 of said sidebar while said distal member is in said second position, and accommodating said radial
7 movement while said distal member is in said first position.

1 36. (previously presented) The lock of claim 16, further comprising said distal member
2 bearing a mass engaging said detent and blocking said rotation while said distal member is in said
3 first position, and a groove through said mass accommodating relative passage between said distal
4 member relative to said detent while said distal member is in said second position.

1 37. (previously presented) The lock of claim 16, further comprising said distal member
2 bearing a mass exhibiting a first height accommodating relative passage between said distal member
3 relative to said detent while said distal member is in said second position, and a second and greater
4 height engaging and blocking said rotation while said distal member is in said first position.

1 38. (previously presented) The lock of claim 16, further comprising said distal member
2 bearing a mass having a periphery engaging said detent and blocking said rotation while said distal
3 member is in said first position, and a central variation in said mass relative to said periphery

4 accommodating relative passage between said distal member and said detent while said distal
member is in said second position.

1 39. (previously amended) The lock of claim 25, further comprising:

2 a logic circuit generating said control signal in response to a comparison between a
3 code set within said logic circuit and a data signal applied to said logic circuit;

4 a conductor provided by said cylinder plug, conveying said data signal to said logic
5 circuit; and

6 said electrical operator moving from said second orientation to said first orientation
7 in response to said control signal.

1 40. (previously amended) The lock of claim 39, with said conductor comprising an electrical
2 conductor.

1 41. (previously amended) The lock of claim 25, further comprising:

2 a logic circuit borne by said cylinder plug, generating said control signal in response
3 to a comparison between a code set within said logic circuit and a data signal applied to said logic
4 circuit;

5 a conductor borne by said cylinder plug, conveying said data signal to said logic
6 circuit; and

7 said electrical operator moving between said second orientation and said first
8 orientation in response to said control signal.

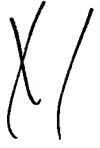
1 42. (previously amended) The lock of claim 41, with said conductor comprising an electrical
2 conductor.

1 43. (withdrawn) A lock, comprising:

2 a cylinder containing a hollow interior recess defining a longitudinal axis, and bearing
3 a slot within said recess; and

4 a cylinder plug rotatable from a rest orientation around said longitudinal axis while
5 resident within said hollow recess relative to said cylinder; and

6 an elongate member positioned between said cylinder and said cylinder plug, and
7 while extending into said slot, preventing rotation between said cylinder and said cylinder plug by
8 making a direct simultaneous engagement of said cylinder and said cylinder plug while said plug
9 remains in said rest orientation and, in response to a torque that is externally applied to said cylinder
10 plug and that causes said rotation of said cylinder plug within said shell, exiting said slot while
11 maintaining a second simultaneous engagement of said cylinder and said cylinder plug that
12 accommodates said rotation;

13  said cylinder plug comprising:

14 a first base bearing an orifice spaced-apart from and separated by a mass of
15 said cylinder plug;

16 a second base separated by an axial length of said cylinder plug from said first
17 base, said second base disposed to support a cam, said mass being penetrated by a radially
18 oriented aperture;

19 an exterior surface extending between said first base and said second base;

20 a conductor having a terminal exposed to an exterior of said first base through
21 said orifice;

22 an electronic logic circuit comprising a memory storing a code, said circuit
23 being borne by said cylinder plug and coupled to receive data signals via said conductor, said
24 circuit generating control signals in dependence upon a comparison between said code and
25 information borne by said data signal;

26 an electrical operator mounted within said aperture, said operator having a
27 movable member traveling in dependence upon said control signals between a first position
28 relative to said exterior surface maintaining said simultaneous engagement by blocking

29 movement of said elongated member from said direct simultaneous engagement and a second
30 and different position relative to said exterior surface accommodating movement between
31 said plug and said cylinder; and
32 a component biasing said movable member to maintain said simultaneous
33 engagement.

1 44. (withdrawn) The lock of claim 43, further comprising:

2 said elongate member comprising a sidebar positioned between said first base and
3 said second base to reciprocate between a first location while providing said simultaneous
4 engagement, and a second location releasing said plug for rotation relative to said cylinder; and
5 X/ said movable member being oriented within said plug to move relative to said plug
6 to accommodate reciprocation of said sidebar relative to said plug and rotation of said plug from said
7 rest orientation relative to the cylinder when a key while inserted into said plug generates said data
8 signals representing information having a selected said comparison with said code, and obstructing
9 said reciprocation absent said selected comparison.

1 45. (withdrawn) The lock of claim 43, further comprising:

2 said elongate member comprising an arm arcuately engaging said cylinder and a
3 detent extending from said arm and through said slot; and
4 said movable member being oriented within said plug to move relative to said plug
5 to accommodate passage of said detent relative to said movable member during rotation of said plug
6 from said rest orientation relative to the cylinder when a key while inserted into said plug generates
7 said data signals representing information having a selected said correspondence with said code, and
8 obstructing said rotation of said plug from said rest orientation by engaging said detent absent said
9 selected correspondence.

1 46. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess;

6 a bar borne by said plug and rotatable with said plug relative to said shell, said bar
7 being interposed between said shell and said cylinder plug to reciprocate generally along a radial
8 plane between a first position engaging both said shell and said cylinder plug while obstructing
9 rotation of said cylinder plug within said recess, and a second position accommodating said rotation,
10 said cylinder plug comprising:

11 a first base and a second base separated by an axial length of said plug from said first
12 base, said second base bearing means for supporting a cam; and

13 an electrical operator being electrically operable to respond to an electrical control
14 signal by obstructing movement of said bar between said first position and said second position in
15 response to a first state of said control signal and by moving within a second and different plane not
16 coextensive with said radial plane in response to application of said control signal to accommodate
17 said movement of said bar in response to a second and different state of said control signal.

1 47. (previously presented) The lock of claim 46, further comprised of said operator directly
2 obstructing movement of said bar between said first position and said second position absent said
3 control signal.

1 48. (previously presented) The lock of claim 46, further comprised of:
2 a logic circuit borne by said cylinder plug generating said control signal in response
3 to a comparison between a code set within said logic circuit and a data signal applied to said logic
4 circuit; and
5 said electrical operator moving to accommodate said movement by said bar in
6 response to said control signal.

1 49. (previously presented) The lock of claim 46, further comprised of a locking mechanism
2 borne by said cylinder plug, said cylinder plug being perforated by an aperture admitting reciprocal
3 travel of a key relative to said locking mechanism, and said locking mechanism obstructing
4 movement of said cylinder plug relative to said shell absent the key exhibiting a selected relation
5 with said locking mechanism.

1 50. (previously presented) The lock of claim 46, further comprised of a plurality of electrical
2 conductors borne by said lock to engage a circuit in a key inserted into said cylinder plug.

1 X 51. (previously presented) The lock of claim 46, further comprised of a power source
2 energizing said electric operator to move during said second and different state of said control signal,
3 positioned to rotate with said cylinder plug relative to said shell.

1 52. (previously presented) The lock of claim 51, further comprised of said plug containing
2 a keyway, and said power source being mounted on a key insertable into said keyway.

1 53. (previously amended) The lock of claim 46, further comprised of a network of plugs
2 including said cylinder plug, and a switching device controlling operation of said network and said
3 state of said control signal.

1 54. (previously presented) The lock of claim 46, further comprised of:
2 said cylinder plug containing a keyway;
3 a memory borne by said cylinder plug and storing a code; and
4 a logic circuit comprising a memory storing a code, said circuit being borne by said
5 cylinder plug and generating said control signal in dependence upon correspondence between said
6 code and data borne by a key insertable within said keyway.

1 55. (previously amended) The lock of claim 25, further comprised of:
2 said cylinder plug containing a keyway;
3 a memory borne by said cylinder plug and storing a code; and
4 a logic circuit comprising a memory storing a code, said circuit being borne by said
5 cylinder plug and generating said control signal in dependence upon correspondence between said
6 code and data borne by a key insertable within said keyway.

1 56. (previously presented) A lock, comprising:
2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;
4 a plug rotatable around said longitudinal axis while resident within said hollow
5 recess;
6 an elongate member interposed between said shell and said plug to travel generally
7 along a radial direction between a first position where said elongate member obstructs rotation
8 between said shell and said plug by making a direct simultaneous engagement of both said shell and
9 said plug, and in response to a torque that is externally applied to said plug and causes rotation of
10 said plug within said shell, exiting said recess and traveling to a second position while maintaining
11 a second simultaneous engagement of said shell and said plug that accommodates said rotation;
12 said plug comprising:
13 a first base perforated by an aperture, and a second base separated by an axial
14 length of said plug from said first base, said second base bearing means for supporting a cam;
15 a logic circuit borne by said plug and rotatable with said plug, conveying said
16 data signal between said aperture to said logic circuit; and
17 an electrical operator responding to said control signals by moving
18 independently of said travel by said elongate member in a second direction within a plane
19 that maintains said simultaneous engagement but is not aligned with said radial direction

20 between one of a first orientation obstructing said travel and relative operable movement
21 between said shell and said plug while said electrical operator is contained wholly within
22 said plug, and a second and different orientation accommodating said travel and said relative
23 operable movement between said shell and said plug, and another of said first orientation and
24 said second orientation.

Claims 57 through 63. (Canceled)

1 64. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;

8 a sidebar interposed between said shell and said cylinder plug to travel generally
9 along a radial plane between a first position engaging both said shell and said plug while obstructing
10 rotation of said cylinder plug within said recess, and a second position accommodating said rotation;

11 a logic circuit generating an electrical control signal in response to a comparison
12 between a code set within said logic circuit and a data signal applied to said logic circuit;

13 an electrical conductor provided by said plug, conveying said data signal to said logic
14 circuit; and

15 an electrical operator borne by said cylinder plug and rotatable with said plug, said
16 electrical operator being electrically operable to respond to said control signal by moving in a
17 different plane independently of said travel by said sidebar, between one of a first orientation
18 providing obstruction of said travel and a second and different orientation accommodating said
19 travel, and another of said first orientation and said second orientation;

20 said sidebar having a first portion that is positioned to be optionally blocked by
21 another component of said lock functioning independently of said electrical operator to prevent said
22 travel of said sidebar, and a second portion that is positioned to be blocked from said travel by said
23 sidebar to said second position whenever said electrical operator is within said first orientation, and
24 a second portion that is positioned to be optionally blocked by another component of said lock.

1 65. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;

8 a bar interposed between said shell and said cylinder plug to travel generally along
9 a radial plane between a first position engaging both said shell and said plug while obstructing
10 rotation of said cylinder plug within said recess, and a second position accommodating said rotation;


11 a logic circuit generating a control signal in response to a comparison between a code
12 set within said logic circuit and a data signal applied to said logic circuit;

13 an electrical conductor provided by said plug, conveying said data signal to said logic
14 circuit; and

15 an electrical operator comprising an armature, said armature being borne by said
16 cylinder plug and rotating around said longitudinal axis with said plug, said electrical operator being
17 electrically operable to respond to said control signal by moving independently of said travel,
18 between one of a first orientation providing obstruction of said travel and a second and different
19 orientation accommodating said travel, and another of said first orientation and said second
20 orientation.

1 66. (previously presented) The lock of claim 65, with said electrical operator further
2 comprising a coil of an electrically conducting material that is borne by said cylinder plug and wound
3 to drive said armature to move from one of said first and second orientations to the other of said first
4 and second orientations in response to said control signal.

1 67. (previously presented) The lock of claim 65, with said electrical operator further
2 comprising a coil of an electrically conducting material that is borne by said cylinder plug and wound
3 to drive said armature to move from said first orientation to said second orientation in response to
4 said control signal.

1  68. (previously presented) The lock of claim 65, with electrical operator further comprising
2 a coil of an electrically conducting material that is borne by said cylinder plug and wound to drive
3 said armature to rotate around an arc in response to said control signal.

1 69. (previously presented) The lock of claim 65, with said electrical operator further
2 comprising a coil of an electrically conducting material that is borne by said cylinder plug and wound
3 to drive said armature to reciprocate along a radial axis that is transverse to said radial plane in
4 response to said control signal.

1 70. (previously presented) A lock, comprising:
2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;
4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;
8 a bar interposed between said shell and said cylinder plug to travel generally along

9 a radial plane between a first position engaging both said shell and said plug while obstructing
10 rotation of said cylinder plug within said recess, and a second position accommodating said rotation;
11 a logic circuit generating said control signal in response to a comparison between a
12 code set within said logical circuit and a data signal applied to said logical circuit;
13 an electrical conductor provided by said plug, conveying said data signal to said logic
14 circuit; and
15 an electrical operator borne by said cylinder plug and rotatable with said plug, said
16 electrical operator being electrically operable to respond to an electrical control signal applied to said
17 electrical operator by moving along a geometrical construct other than to said radial plane between
18 one of a first orientation providing obstruction of said travel and a second and different orientation
19 accommodating said travel, and another of said first orientation and said second orientation.

1 71. (previously amended) The lock of claim 70, with said electrical operator further
2 comprising an armature and a coil of an electrically conducting material that is borne by said cylinder
3 plug and wound to drive said armature to move along said geometric construct in response to said
4 control signal.

1 72. (previously amended) The lock of claim 70, with said electrical operator further
2 comprising an armature and a coil of an electrically conducting material that is borne by said cylinder
3 plug and wound to drive said armature to move along said geometric construct in response to said
4 control signal from said second orientation to said first orientation.

1 73. (withdrawn) The lock of claim 70, with said geometric construct comprising an arc and
2 said electrical operator further comprising an armature and a coil of an electrically conducting
3 material that is borne by said cylinder plug and wound to drive said armature to rotate around said
4 arc in response to said control signal.

1 74. (previously amended) The lock of claim 70, with said geometric construct comprising
2 a radial axis that is transverse to said radial plane, and said electrical operator further comprising an
3 armature and a coil of an electrically conducting material that is borne by said cylinder plug and
4 wound to drive said armature to reciprocate along said radial axis in response to said control signal.

1 75. (previously presented) A lock, comprising:
2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;

8 a bar interposed between said shell and said cylinder plug to travel generally along
9 a radial plane between a first position engaging both said shell and said plug while obstructing
10 rotation of said cylinder plug within said recess, and a second position accommodating said rotation;

11 a logic circuit generating a control signal in response to a comparison between a code
12 set within said logic circuit and a data signal applied to said logic circuit;

13 an electrical conductor provided by said plug, conveying said data signal to said logic
14 circuit; and

15 an electrical operator borne by said cylinder plug and rotatable with said plug, said
16 electrical operator being electrically operable to respond to said control signal by moving along a
17 radial axis that is transverse to said radial plane, between a first orientation providing obstruction of
18 said travel and a second and different orientation accommodating said travel.

1 76. (previously presented) A lock, comprising:
2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;

8 a logic circuit generating said control signal in response to a comparison between a
9 code set within said logic circuit and a data signal applied to said logic circuit;

10 an electrical conductor provided by said plug, conveying said data signal to said logic
11 circuit;

12 an elongate bar exhibiting a greatest longitudinal dimension along a second axis that
13 extends transversely to said first base and to said second base, said bar being interposed between said
14 shell and said cylinder plug to travel generally along a radial axis that is transverse to said second
15 axis, between a first position engaging both said shell and said plug while obstructing rotation of said
16 cylinder plug within said recess, and a second position accommodating said rotation; and

17 an electrical operator borne by said cylinder plug and rotatable with said plug, said
18 electrical operator being electrically operable to respond to said control signal by moving along said
19 radial axis between one of a first orientation providing obstruction of said travel and a second and
20 different orientation accommodating said travel, and another of said first orientation and said second
21 orientation.

1 77. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting a
7 cam;

8 a logic circuit generating said control signal in response to a comparison between a

code set within said logic circuit and a data signal applied to said logic circuit;

an electrical conductor provided by said plug, conveying said data signal to said logic circuit;

an elongate bar exhibiting a greatest longitudinal dimension along a second axis that extends transversely to said first base and to said second base, said bar being interposed between said shell and said cylinder plug to travel generally along a radial axis that is radial to said cylinder plug and transverse to said second axis, between a first position engaging both said shell and said plug while obstructing rotation of said cylinder plug within said recess, and a second position accommodating said rotation; and

an electrical operator borne by said cylinder plug and rotatable with said plug, said electrical operator being electrically operable to respond to a control signal by moving between one of a first orientation providing obstruction of said travel and a second and different orientation accommodating said travel, and another of said first orientation and said second orientation.

78. (previously amended) The lock of claim 25, with said electrical operator further comprising an armature and a coil of an electrically conducting material that is borne by said cylinder plug and wound to drive said armature to move from one of said first and second orientations to the other of said first and second orientations in response to said control signal.

79. (previously amended) The lock of claim 25, with said electrical operator further comprising an armature and a coil of an electrically conducting material that is borne by said cylinder plug and wound to drive said armature to move from said first orientation to said second orientation in response to said control signal.

80. (previously amended) The lock of claim 25, with electrical operator further comprising an armature and a coil of an electrically conducting material that is borne by said cylinder plug and wound to drive said armature to rotate around an arc in response to said control signal.

1 81. (previously amended) The lock of claim 25, with said electrical operator further
2 comprising an armature and a coil of an electrically conducting material that is borne by said cylinder
3 plug and wound to drive said armature to reciprocate along a radial axis that is transverse to said
radial plane in response to said control signal.

1 82. (previously amended) The lock of claim 25, further comprised of a component biasing
2 said bar to maintain said first position engaging both said shell and said plug.

1 83. (previously amended) The lock of claim 25, further comprised of a component biasing
2 said electrical operator to maintain said second orientation providing obstruction of said bar.

1 84. (previously amended) The lock of claim 25, further comprised of:
2 a first component biasing said bar to maintain said first position engaging both said shell and
3 said plug; and
4 a second component biasing said electrical operator to maintain said second orientation
5 providing obstruction of said bar.

Claims 85-89. (Canceled)

1 90. (previously presented) A process of retrofitting a mechanical cylinder lock to form an
2 electromechanical cylinder lock, the process comprising steps of:
3 providing a mechanical cylinder lock including an outer shell with a bore, a first rotatable
4 barrel located in the bore, and a side bar for preventing and permitting rotation of the barrel within
5 the bore in the shell;
6 removing the first barrel from the shell;
7 providing an electronically powered rotatable barrel having an exterior adapted to

8 substantially correspond to the bore in the shell, and including:

9 at least one electromechanical locking member disposed in the barrel, the electromechanical
10 locking member being positionable to permit the side bar to engage the locking member in a non-
11 barrel blocking position which permits the barrel to rotate with respect to the shell, and the
12 electromechanical locking member also being positionable in a barrel blocking position which
13 blocks rotation of the barrel with respect to the shell; and

14 an electronically powered drive mechanism cooperating with the electromechanical locking
15 member to selectively move the locking member from the barrel blocking position to the non-barrel
16 blocking position in which the side bar engages the locking member to rotate the barrel and operate
17 the lock; and

18 securing the electronically powered rotatable barrel in the bore in the shell to form an
19 X/ electromechanical cylinder lock, the lock including control means carried by at least one of the barrel
20 and bore for energizing the electronically powered drive mechanism in response to an authorized
21 attempt to open the lock.

1 91. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base perforated by a keyway and a second base
6 separated by an axial length of said cylinder plug from said first base, said second base disposed to
7 support a cam;

8 a bar interposed between said shell and said cylinder plug to reciprocate generally
9 along a radial plane between a first position engaging both said shell and said plug while obstructing
10 rotation of said cylinder plug within said recess, and a second position accommodating said rotation
11 when a torque is externally applied to said keyway to rotate said cylinder plug within said shell;

12 a locking mechanism borne by and rotating with said cylinder plug, said locking

13 mechanism being interposed between said cylinder plug and said bar, and exhibiting a first
14 disposition hindering said reciprocation and, in response to insertion of a key in physical
15 conformance to said locking mechanism, exhibiting a second and different disposition
16 accommodating said reciprocation; and

17 an electrical operator borne by said cylinder plug and rotatable with said cylinder
18 plug, said electrical operator being electrically operable to respond to a control signal by moving
19 independently of said bar between a first orientation providing obstruction of said reciprocation by
20 said bar and a second and different orientation removing said obstruction.

1 92. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess;

6 a bar interposed between said shell and said cylinder plug to extend generally along
7 a radial plane between a first state engaging both said shell and said plug while obstructing rotation
8 of said cylinder plug within said recess, and a second state accommodating said rotation;

9 said cylinder plug comprising:

10 a first base and a second base separated by an axial length of said cylinder plug from
11 said first base, said second base configured to support a cam; and

12 an electrical operator comprising an armature borne by said cylinder plug and
13 rotatable with said cylinder plug, said electrical operator being electrically operable to
14 respond to a control signal by moving said armature independently of said bar, between one
15 of a first orientation providing obstruction of said rotation during said first state and a second
16 orientation accommodating independent relative movement between said bar and said
17 cylinder plug, and another of said first orientation and said second orientation.

1 93. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position between said
5 shell and said cylinder plug, said armature obstructing said rotation absent said conduction,
6 accommodating said rotation during said conduction, and accommodating said rotation until said
7 rotation returns said armature to said rest position after termination of said conduction.

1 94. (Withdrawn) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said
5 exterior surface extending between said shell and said cylinder plug while said cylinder plug is in
6 alignment with said shell in a locked condition, said armature obstructing said rotation absent said
7 conduction, accommodating said rotation during said conduction by withdrawing from said shell and
8 wholly into said cylinder plug, accommodating said rotation until said rotation returns said armature
9 to said rest position after termination of said conduction, and resuming said rest position when said
10 rotation restores said alignment.

1 95. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position between said
5 bar and said cylinder plug, said armature obstructing said rotation absent said conduction, said
6 armature accommodating said rotation during said conduction, and said armature accommodating
7 said rotation until said rotation returns said armature to said rest position after termination of said
8 conduction.

1 96. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said first
5 orientation while said exterior surface is interposed between said bar and said cylinder plug and
6 obstructs said rotation absent said conduction, said armature assuming said second orientation,
7 withdrawing from said interposition and accommodating said rotation during said conduction, and
8 said armature accommodating said rotation until said rotation returns said armature to said rest
9 position with said first orientation after termination of said conduction.

1 97. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said first
5 orientation while said exterior surface is interposed between said bar and said cylinder plug and
6 obstructs said rotation absent said conduction, said armature assuming said second orientation,
7 withdrawing from said interposition and accommodating said rotation during said conduction, and
8 said armature maintaining said second orientation and accommodating said rotation after said
9 rotation returns said armature to said rest position after termination of said conduction.

1 98. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said first
5 orientation while said exterior surface is interposed between said bar and said cylinder plug and
6 obstructs said rotation absent said conduction, said armature assuming said second orientation,

7 withdrawing from said interposition and accommodating said rotation during said conduction, said
8 armature maintaining said second orientation and accommodating said rotation after said rotation
9 returns said armature to said rest position after termination of said conduction, and said armature
10 resuming said first orientation during renewal of said conduction subsequent to said termination.

1 99. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said control
3 signal; and

4 said armature comprising an exterior surface exhibiting a rest position while in said
5 first orientation absent said conduction with a first thickness of said exterior surface interposed
6 between said bar and said cylinder plug and with said cylinder plug in alignment with said shell in
7 a locked position, said armature exhibiting said second orientation and accommodating said rotation
8 during said conduction with a second and lesser thickness of said exterior surface permitting
9 movement of said bar relative to said cylinder plug, and said armature accommodating said rotation
10 until said rotation allows said bar to reverse said relative movement and said armature to return to
11 said rest position after termination of said conduction.

1 100. (previously presented) The lock of claim 92, further comprised of:

2 a logic circuit borne by said cylinder plug, generating said control signal in response
3 to a comparison between a code set within said logic circuit and a data signal applied to said logic
4 circuit; and

5 said electrical operator moving between said second orientation and said first
6 orientation in response to said control signal.

1 105. (previously presented) The process of claim 90, further comprising:

2 orienting said side bar to travel along a plane that extends approximately radially
3 relative to said electronically powered rotatable barrel when engaging said locking member; and
4 positioning said locking member to move on an axis that is approximately

5 perpendicular to said plane when said locking member is selectively moved from said barrel
6 blocking position to said non-barrel blocking position.

Claims 101-104. (Canceled)

1 105. (previously amended) The process of claim 90, further comprising:
2 orienting said side bar to travel along a plane that extends approximately radially
3 relative to said electronically powered rotatable barrel when engaging said locking member; and
4 positioning said locking member to move on an axis that is approximately
5 perpendicular to said plane when said locking member is selectively moved from said barrel
6 blocking position to said non-barrel blocking position.

1 106. (previously presented) The lock of claim 14, further comprising said bar engaging both
2 said shell and said plug during said movement between said plug and said cylinder.

1 X 107. (previously amended) The lock of claim 25, further comprising said bar engaging both
2 said shell and said cylinder plug during said rotation.

1 108. (previously presented) The lock of claim 46, further comprising said bar engaging both
2 said shell and said cylinder plug during said rotation.

1 109. (previously presented) The lock of claim 64, further comprising said sidebar engaging
2 both said shell and said cylinder plug during said rotation.

1 110. (previously amended) The lock of claim 65, further comprising said bar engaging both
2 said shell and said cylinder plug during said rotation.

1 111. (previously presented) The lock of claim 70, further comprising said bar engaging both
2 said shell and said cylinder plug during said rotation.

1 112. (previously presented) The lock of claim 75, further comprising said bar engaging both
2 said shell and said cylinder plug during said rotation.

1 113. (previously presented) The lock of claim 76, further comprising said bar engaging both
2 said shell and said cylinder plug during said rotation.

1 114. (previously presented) The lock of claim 77, further comprising said bar engaging both
2 said shell and said cylinder plug during said rotation.

1 115. (previously presented) The lock of claim 85, further comprising said side bar engaging
2 both said shell and said barrel during said rotation.

1 116. (previously presented) The lock of claim 91, further comprising said bar engaging both
2 said shell and said cylinder plug during said rotation.

Claims 117-118. (Canceled)

1 119. (previously presented) The lock cylinder of claim 85, in which said side bar moves out
2 of the cavity and engages the locking member to rotate the barrel and operate the lock.

1 120. (previously presented) A rotatable lock barrel for insertion into a lock cylinder having
2 a bore formed therein, the barrel comprising:

3 an elongated, generally cylindrically shaped barrel member having an exterior configured for
4 receipt in a bore of a lock cylinder and an interior containing a plurality of electromechanical locking

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members, the barrel member having a recess formed therein;

wherein the locking members are disposed in the recess of the barrel member and are substantially entirely contained within the barrel member, each of the locking members including a groove and the locking members being movable to a position in which the grooves of the locking members are aligned;

the recess in said barrel member being configured to receive at least a portion of a movable side bar of a lock cylinder to permit the side bar to move into and out of engagement with the grooves of the locking members for selectively permitting and blocking rotation of the barrel member with respect to a lock cylinder when positioned therein;

an electronically powered drive mechanism located within the barrel member for moving the electromechanical locking members to a position in which the grooves of the locking members are aligned.

121. (previously presented) A lock, comprising:

a shell containing a hollow recess defining a longitudinal axis and an interior cylindrical surface;

a cylinder plug rotatable around said longitudinal axis while resident within said hollow recess;

a bar interposed between said shell and said cylinder plug detent extending radially from a second recess within said shell into a passage within said cylinder plug to create an obstruction to rotation of said cylinder plug within said hollow recess;

said cylinder plug comprising:

a first base and a second base separated by an axial length of said cylinder plug from said first base, said second base configured to support a cam; and

an electrical operator borne by said cylinder plug and rotatable with said cylinder plug, said electrical operator being electrically operable to respond to a control signal by moving independently of said detent between one of a first orientation accommodating

15 *X/* relative movement between said detent and said cylinder plug and a second and different
16 orientation maintaining obstruction of said relative movement by engaging said detent, and
another of said first orientation and said second orientation.
